

REMARKS

Claims 1, 4, 5, 9, 19, 22, 23, 24, 26, 27, 29, 31, 32, 34, 35, 40, 41, 42 are amended, claims 3, 33, 39 are canceled without prejudice or disclaimer, and claim 50 is added; as a result, claims 1, 2, 4-12, 19-27, 29-32, 34-38, 40-44, and 46-50 are now pending in this application.

§103 Rejection of the Claims

Claims 1, 2, 3, 4, 5, 6, 9, 10, 19-21, 24, 25, 29, 30, 33-36, 39, and 40 were rejected under 35 USC § 103(a) as being unpatentable over Forbes et al. (U.S. 6,141,248) in view of Gardner et al. (U.S. 6,210,999). Applicant respectfully traverses.

First, applicant is unable to find all of the features of claim 1 in Forbes and Gardner, either alone or in combination. For example, applicant is unable to find a control gate opposing the floating gate, wherein the control gate is separated from the floating gate by a *low tunnel barrier intergate insulator*, wherein the low tunnel barrier intergate insulator includes a metal oxide insulator selected from the group consisting of *lead oxide (PbO)* and *aluminum oxide (Al₂O₃)*. The Office Action admits that Forbes does not teach the feature of a low tunnel barrier intergate insulator. The Office Action at page 4 specifically cites Gardner col. 10, lines 65-67, col. 8, lines 25-40, and col. 4, lines 9-17. Applicant can not find the features of claim 1 at these locations. As applicant is unable to find all of the features of claim 1 in Forbes and Gardner, applicant requests allowance of claim 1 and claims 2, 4-6.

The Examiner has the burden under 35 U.S.C. § 103 to establish a *prima facie* case of obviousness. *In re Fine*, 837 F.2d 1071, 1074, 5 U.S.P.Q.2d (BNA) 1596, 1598 (Fed. Cir. 1988). In combining prior art references to construct a *prima facie* case, the Examiner must show some objective teaching in the prior art or some knowledge generally available to one of ordinary skill in the art that would lead an individual to combine the relevant teaching of the references. *Id.*

The M.P.E.P. contains explicit direction to the Examiner that agrees with the *In re Fine* court:

In order for the Examiner to establish a *prima facie* case of obviousness, three base criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must

teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, and not based on applicant's disclosure. *M.P.E.P.* § 2142 (citing *In re Vaeck*, 947 F.2d 488, 20 U.S.P.Q.2d (BNA) 1438 (Fed. Cir. 1991)).

Applicant submits that there is no reasonable expectation of success in combining Forbes and Gardner. There is no valid motivation to combine Gardner with Forbes, absent the teachings of the present application. Reconsideration and withdrawal of the obviousness rejection is requested.

Claim 9 recites, in part, a floating gate opposing the channel region and separated therefrom by a gate oxide; and a control gate opposing the floating gate, wherein the control gate is separated from the floating gate by a low tunnel barrier intergate insulator; . . . wherein the low tunnel barrier integrate insulator includes a metal layer in contact with one of the floating gate and the control gate. Applicant can not find these features in Forbes and Gardner, either alone or in combination. Moreover, applicant submits that the above factors to make a *prima facie* obviousness rejection have not been made. Based at least on this, applicant submits that claims 9 and 10 are allowable.

Applicant further notes that the Office Action admits that Gardner does not mention low tunnel barrier properties. Accordingly, applicant submits that Gardner does not teach these feature as recited in the claims. Moreover, one of ordinary skill in the art would have no expectation of success when combining Gardner with Forbes absent such a teaching of this feature as recited in the claims. As Gardner and Forbes do not mention these feature, applicant believes that the examiner may be relying on hindsight reconstruction based on the present application. Reconsideration of all obviousness rejections is requested.

The Office Action admitted that Gardner does not teach low tunnel barrier integrate insulators. But, the Office Action maintained that this is inherent in Gardner. Applicant respectfully disagrees because the Office Action has not established a *prima facie* case of inherency because, as recited in MPEP § 2112, "In relying upon the theory of inherency, the examiner must provide basis in fact and/or technical reasoning to reasonably support the determination that the allegedly inherent characteristic necessarily flows from the teachings of

the applied prior art,” citing Ex parte Levy, 17 USPQ2d 1461, 1464 (Bd. Pat. App. & Inter. 1990) (emphasis in original). Applicant further assumes that Office Notice of these features is being asserted. Applicant requests a reference teaches such a feature or withdrawal of the rejection.

Claim 24 recites, in part, floating gate opposing the channel region and separated therefrom by a gate oxide; and a control gate opposing the floating gate, wherein the control gate is separated from the floating gate by a low tunnel barrier intergate insulator; wherein the low tunnel barrier integrate insulator includes a metal layer in contact with one of the floating gate and the control gate. Applicant can not find these features in Forbes and Gardner. Applicant requests reconsideration and allowance of claims 24 and 25.

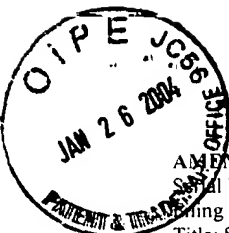
Claim 29 is believed to be allowable for at least substantially similar reasons as stated above. Allowance of claim 29 is requested.

Applicant further preserves all issues for appeal and or further argument in subsequent prosecution.

Allowable Subject Matter

Claims 7, 8, 11, 12, 37, 38, 43, 44, and 46-49 were allowed.

Claims 22, 23, 26, 27, 31, 32, 41, and 42 were objected to as being dependent upon a rejected base claim, but were indicated to be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. Claims 22 and 23 are rewritten into independent form. Claims 26 and 27 are rewritten into independent form. Claims 31 and 32 are rewritten into independent form. Claims 41 and 42 are rewritten into independent form.



AMENDMENT AND RESPONSE UNDER 37 CFR § 1.111

Serial Number: 09/945554

Filing Date: August 30, 2001

Title: SRAM CELLS WITH REPRESSED FLOATING GATE MEMORY, LOW TUNNEL BARRIER INTERPOLY INSULATORS

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Conclusion

Applicant respectfully submits that the claims are in condition for allowance and notification to that effect is earnestly requested. The Examiner is invited to telephone Applicant's attorney at (612) 349-9587 to facilitate prosecution of this application.

If necessary, please charge any additional fees or credit overpayment to Deposit Account No. 19-0743

Respectfully submitted,

LEONARD FORBES

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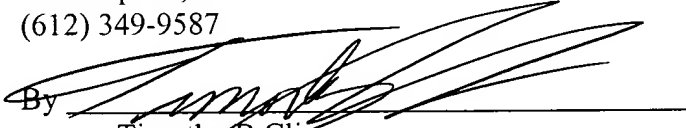
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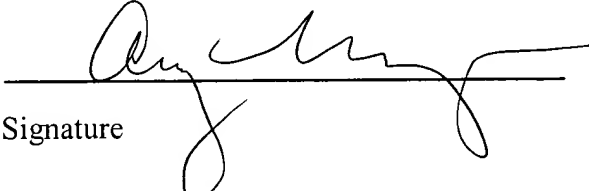

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CERTIFICATE UNDER 37 CFR 1.8: The undersigned hereby certifies that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail, in an envelope addressed to: Commissioner of Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on this 22nd day of January, 2004.

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